

SUMMARY

- Two surveys were created - one questioning people about their food waste habits ([10 responses](#)) and another asking for feedback on people's experience with services marketplace apps ([7 responses](#))
- [A Medium article was written](#) with info from preliminary secondary research to give more background for these surveys (43 reads)
- 3 people were interviewed
 - Food Service Manager for large-scale operations
 - UX designer for marketplace app
 - Director of Operations for marketplace app
- 7 people were surveyed about how their organization handles food surpluses:
 - Employee at Subway Sandwiches
 - Employee at Safeway (meat counter)
 - Employee at Safeway (cashier)
 - Manager at CVS
 - Owner of a small cafe
 - Employee at Alameda County Food Bank
 - Delivery person for Pepsi
 - Employee at Trader Joe's
- Secondary research was done on the following subjects:
 - How food is wasted at different parts of the supply chain from farm to fork (to trash)
 - Recommendations made by various governmental and UN agencies for reducing food waste
 - How food banks and food pantries work
 - Solutions presented by nonprofits that use food surpluses to feed the food-insecure
 - Laws and regulations surrounding food donation

RESEARCH GOALS

- Discover inefficiencies in the supply chain that causes food waste.
- Learn about organizations and businesses that are addressing the issue of food waste and their challenges. Discover what other solutions have been proposed.
- Learn about how much the public understands about the causes, effects, and remedies for food waste.
- See if a marketplace model can work into the existing processes around food donation.

FINDINGS

Goal: Learn about the causes for food waste all along the supply chain.

- [Food waste occurs in all parts of the chain.](#)
 - Farming and packing: Unharvested fruit due to appearance, packing/shipping, lack of labor. Approximate 7% of planted fields are not harvested each year. Roughly 20-50% of harvested food is culled (removed for appearance, sugar content) depending on type of food.
 - Processing: Food loss occurs at trimming as well as during technical malfunctions. Food loss can be up to 50% depending on type of food and processing.
 - Distribution: Rejection of shipments. Truck malfunction causing problems in refrigeration.
 - Retail: Culling, Availability of fresh food until closing, misunderstood "sell by" dates, overstock store displays, unpopular or out-of-season items. 10% of food at retail level is lost totaling 46 billion pounds/year.
 - Food service: prepping food, plate waste due to large portions and extensive menu choices, high food quality standards for chain restaurants. 19% of food at food service level is lost totaling 86 billion pounds/year. "Plate Waste": On average, diners leave 17 percent of meals uneaten and 55 percent of these potential leftovers are not taken home.

- Household: undervaluing food, confusion over expiration dates, spoilage, impulse or bulk buying, poor planning, over-preparation. The average household throws out 25% of the food they buy which amounts to \$1,365 to \$2,275 annually for a family of 4.
- Disposal: only 3% of food trash is composted. The decomposition of uneaten food accounts for 23 percent of all methane emissions in the United States.

Goal: Learn about organizations and businesses that are addressing the issue of food waste and their challenges. Discover what other solutions have been proposed.

- [There are many organizations](#) that are trying to address food waste at all stages of the problem
 - Food banks act as main hub for accepting donated food and distributing to food pantries, daycares, homeless shelters, soup kitchens. They accept perishable and non-perishable foods. Many food banks are part of the Feeding America network.
 - Meals on wheels help deliver meals to elderly people
 - Campus Kitchens Project turns unused food in dining halls, grocery stores, farmers markets into meals for the needy
 - Cropmobster connects food producers and retailers with consumers and hunger relief organizations
 - LA Kitchen rescues food to prepare healthy meals, snacks, and food products and train older adults returning from prison and youth aging out of foster care in the culinary arts
 - Move For Hunger collects food from people who are moving and donates them.
 - Food Runners take food donations from anyone and redirects them to a nearby food bank.
- Their challenges
 - Transportation costs for delivering or picking up donated food
 - Overhead costs of storing donated food
 - Supply not matching the need
 - Lack of federal tax incentives for donating food
 - Not enough awareness for ease of getting food from food pantries
 - Not enough awareness of Bill Emerson Good Samaritan Food Act protecting food donors from liability
- Proposed solutions that can benefit from tech
 - Expansion of secondary markets for items with cosmetic damage
 - Farm-level food recovery via paid “concurrent picking”
 - Online solutions to facilitate sale or donation of rejected shipments
 - Item-level analyses to identify opportunities to reduce SKUs or change ordering patterns
 - Discount offerings for out-of-date promotional items or slightly damaged goods.
 - Waste audits to understand patterns of excess
 - Staff engagement through rewards or incentives to participate in waste reduction
 - Wiser shopping, including meal planning and lists that are followed.
 - Education on food quality and expiration (“sell by” dates, blemishes, etc.)
 - Preparation of smaller portions in homes where leftovers are not routinely consumed

Goal: Learn about how much the public understands about the causes, effects, and remedies for food waste.

- The public hopes that restaurants and retailers are reusing, donating, or composting excess food
- 100% of those surveyed do not know about the Good Samaritan Food Act. Everyone assumed that the donor would be liable.
- 57% threw out cooked leftovers and 71% threw the food in the trash instead of composting.
- Only 43% planned their meals ahead of time.

- 57% are not opposed to eating ugly vegetables and 86% are willing to eat expired dried food (that looks fine).

Goal: See if a marketplace model can work into the existing processes around food donation.

- The benefits of a marketplace model is the freedom for the worker to set their own schedule.
- People tend to turn to these marketplaces because it's a cheaper and easier alternative to hiring a "professional".
- The less moving parts and more specialization the better so marketplaces that try to offer every kind of service being offered will not work as well as single service marketplaces like Lyft (just rides) or Airbnb (just homes).
- For a marketplace to be successful, the match rate should be above 50% in order to build credibility.
- There should be some sort of penalty or retribution for failed matches or at least give incentives for the match to be successful
- There will always be one side of the marketplace that will have a harder problem that needs to be solved. Focusing on that problem for the most success. Sometimes that may even involve incentivizing the other side(s) to be more involved.
- There's a debate of whether it's more desirable for workers to be employees vs. independent contractors. There are benefits on both sides. For employees, they get financial stability and benefits but then they are restricted to rigid scheduling and wages. An independent contract nat have to pay for all their own benefits and taxes but they have the freedom to work with competitors and set their own schedule.

OTHER LEARNINGS AND INSIGHTS

- Elderly people make up 56% of recurring food pantry users (11-12 months/year)
- Reducing losses by just 15 percent could feed more than 25 million Americans every year
- In developing countries 40% of losses occur at post-harvest and processing levels while in industrialized countries more than 40% of losses happen at retail and consumer levels.
- 58% of food loss in the US occurs between production and retailing while a whopping 42% occurs at consumer level.
- A lot of the changes required to make a huge impact requires spreading awareness on a large scale, passing sweeping regulatory legislation, or enacting better tax incentives.
 - Spreading the knowledge of the Good Samaritan Food Act
 - Tax incentives for dealing with overhead of donating food
 - Tax incentives or rebates for improving processes in production that aids in reducing food waste
 - National implementation of sell-by codes and not expiration dates that will sway buyer decision
 However, it hasn't deterred hundreds of nonprofits from popping up to help on the ground-level. My theory is that with the current situation of having 133 billion pounds of wasted food and 40.9 million people being food insecure, the easiest solution to the equation is just to directly connect the dots.
- Food banks seem to have an abundance of volunteers and donated food around the holidays. However, these numbers drop significantly once the new year rolls around.
- Food waste seems to be on people's minds - if they're not actively preventing it, they at least feel guilty about it. People want to do something about it but creating new habits can be very hard.
- A well-oiled and efficient restaurant operation should not be creating excess food waste in prepping and cooking. Not only is it a waste of food, it's first and foremost a waste of money.
- The East Bay Municipal Utility District (EBMUD) encourages residents to compost. The methane harvested from the compost is used run the wastewater treatment power plants. The organic material then gets made into fertilizer.

- There are [city ordinances](#) that attempt to put restriction on how the homeless can be directly fed in public. This could be the laws that confuse the general public into thinking that they cannot and should not donate food.
- How do people who need to use food pantry feel? Ashamed, humiliated, need to set aside pride, timid, unsure.
- Many use pantries to free up money for bills
- What to donate? Pretend it's your child or elderly mother, don't donate things you wouldn't eat yourself. Donate foods high in protein like peanut butter.
- Those who are food insecure may look to their neighbors for a source for food. Very often people don't eat the all food they grow and are happy to see it not go to waste.

SOURCES

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